RISP NCSP 2023 Technical Program at a Glance

*Times in Hawaii time (HST), GMT -10 hours
*(Times): Times in Japan time (JST), GMT +9 hours

	Zoom Meeting Room 1	Zoom Meeting Room 2	Zoom Meeting Room 3
TUESDAY 28 February HST **(WEDNESDAY 1 March JST)**			
14:00-15:40 (09:00-10:40)	28PM1-1: Wireless Communication Systems 1	28PM1-2: Artificial Intelligence and Machine Learning 1	
16:00-18:00 (11:00-13:00)	28PM2-1: Nonlinear Circuits and Systems 1	28PM2-2: Artificial Intelligence and Machine Learning 2	28PM2-3: Signal Processing
19:00-21:00 (14:00-16:00)	28PM3-1:Wireless Communication Systems 2	28PM3-2: Artificial Intelligence and Machine Learning 3	

*Times in Hawaii time (HST), GMT -10 hours

	PLUMERIA	PAKALANA & ANTHURIUM	ILIMA
WEDNESDAY 1 March			
09:00-10:40	1AM1-1: Nonlinear Circuits and Systems 2	1AM1-2: Artificial Intelligence and Machine Learning 4	
11:00-13:00	1AM2-1: Nonlinear Circuits and Systems 3	1AM2-2: Sound and Speech Processing	1AM2-3: Wireless Communication Systems 3
14:00-15:40	1PM1-1: SS2. Neural Prosthesis and WiBIC 1	1PM1-2: Artificial Intelligence and Machine Learning 5	1PM1-3: Communication & Sensor Networks
16:00-17:40	1PM2-1: SS2. Neural Prosthesis and WiBIC 2	1PM2-2: Image & Video Signal Processing	1PM2-3: SS1. Recent Progress of VLC for 6G
THURSDAY 2 March			
09:20-10:40	2AM1-1: Nonlinear Applications	2AM1-2: Artificial Intelligence and Machine Learning for Time Series	
11:00-12:40	2AM2-1: Wireless Communication Systems 4	2AM2-2: Applications of Signal Processing	
FRIDAY 3 March			
11:00-13:00	3AM1-1: Bifurcation and Chaos	3AM1-2: Artificial Intelligence and Machine Learning for Image Processing	
14:00-15:40	3PM1-1: IoT Applications	3PM1-2: Biomedical Signal Processing	

RISP NCSP 2023 Technical Program

Tuesday 28th February
(Wednesday 1st March JST)

28PM1-1: Wireless Communication Systems 1

Tuesday 28th February, 2:00pm to 3:40pm HST (Wednesday 1st March, 9:00 am to 10:40am JST) Venue: Room 1 Chair: Wenqi Zhu (Chiba University)

1. **Identification for Sink Devices Using CNN Based on the Received and Supplied Power Waveform During the USB-PD Negotiation Process**

   Takumi Wada (Kanagawa Institute of Technology), Haruhisa Ichikawa (The University of Electro-Communication), Yoshito Tobe (Aoyama Gakuin University), Shinji Yokogawa (The University of Electro-Communication), Yuusuke Kawakita (Kanagawa Institute of Technology)

2. **A Study on Tracking and Notification of Human Motion using LiDAR Sensors**

   Yuki Matsuo (Konan University), Masahiro Wada (Konan University)

3. **Performance Evaluation of Ethereum Blockchain on Flying Ad-hoc Network**

   Yue Su (Chiba University), Kien Nguyen (Chiba University), Hiroo Sekiya (Chiba University)

4. **Experimental Demonstration of APCMA's Scalability Advantage over Current LPWA**

   Kohei Shiotsuka (Tokyo University of Science), Kentaro Honda (Tokyo University of Science), Kenji Leibnitz (National Institute of Information and Communications Technology), Ferdinand Peper (National Institute of Information and Communications Technology), Naoki Wakamiya (Osaka University), Yoshihiro Maeda (Tokyo University of Science), Mikio Hasegawa (Tokyo University of Science)

5. **A Routing Method Considering Content-Server Mobility in Tree-Structured Mobile Network over CCN**

   Yuto Nakagawa (Tokyo University of Information Sciences), Masaki Hanada (Tokyo University of Information Sciences), Hidehiro Kanemitsu (Tokyo University of Technology)

28PM1-2: Artificial Intelligence and Machine Learning 1

Tuesday 28th February, 2:00pm to 3:40pm HST (Wednesday 1st March, 9:00am to 10:40am JST) Venue: Room 2 Chair: Takafumi Tanaka (Tamagawa University)

1. **Influences of Dataset Divided by the Size in Sweet Potato Selection System Using Deep Learning**

   Nguyen Thao Nguyen (Shikoku University), Yasuteru Hosokawa (Shikoku University)

2. **Shape Sorting by Deep Learning in Sweet Potato Selection System**

   Bao Duong Gia Nguyen (Shikoku University), Yasuteru Hosokawa (Shikoku University)

3. **Knowledge Distillation with Mask-based Relationship for Speech Enhancement**

   Jiachen Wang (Waseda University), Li Li (Nippon Telegraph and Telephone Corporation), Shoji Makino (Waseda University)

4. **Deep Complex-Valued Neural Network-Based Triple-Path Mask and Steering Vector Estimation for Multi-channel Target Speech Separation**

   Mohan Qin (Waseda University), Li Li (Nippon Telegraph and Telephone Corporation), Shoji Makino (Waseda University)

5. **Development of CNN to Estimate Depth Distribution Spectrometry of Soil**

   Mohd Azam Bin Mohd Pauzi (Kagawa University), Takuto Umemoto (Kagawa University), Kenichi Fujimoto (Kagawa University), Minoru Sakama (Tokushima University), Kazumasa Inoue (Tokyo Metropolitan University), Masahiro Fukushi (Tsukuba International University), Yusuke Imajyo (Advanced Fusion Technology Co. Ltd.), Michitaka Endo (Advanced Fusion Technology Co. Ltd.)

28PM2-1: Nonlinear Circuits and Systems 1

Tuesday 28th February, 4:00pm to 6:00pm HST (Wednesday 1st March, 11:00am to 1:00pm JST)   Venue: Room 1 Chair: Tatsuki Osato (NIT, Hachinohe College)

1. **Safe Driving System for Electric Wheelchair with Balloon-type Pneumatic Interface**

   Kosei Hirano (Tokushima University), Hiroshi Suzuki (Tokushima University), Takahiro Kitajima (Tokushima University), Akinobu Kuwahara (Tokushima University), Takashi Yasuno (Tokushima University), Shinjiro Takata (Tokushima National Hospital)

2. **Data Acquisition System of Human Skillful Operation Using Master-Slave Robot Manipulator**

   Yuto Yamada (Tokushima University), Hiroshi Suzuki (Tokushima University), Takahiro Kitajima (Tokushima University), Akinobu Kuwahara (Tokushima University), Takashi Yasuno (Tokushima University)

3. **A Novel Hybrid Wireless Power Transfer System for Battery Charging Applications**

   Wenqi Zhu (Chiba University), Yutaro Komiyama (Chiba University), Kien Nguyen (Chiba University), Hiroo Sekiya (Chiba University)

4. **Analysis and Design of Push-pull Load-independent Class-E Frequency Tripler**

   Yinchen Xie (Chiba University), Wenqi Zhu (Chiba University), Yutaro Komiyama (Chiba University), Kien Nguyen (Chiba University), Hiroo Sekiya (Chiba University)

5. **Optimization of Shape of PSI for Rotation Angle Measurement System with Three PSIs**

   Ryota Masumoto (Hiroshima Institute of Technology), Keito Ohshita (Hiroshima Institute of Technology), Masayuki Yamauchi (Hiroshima Institute of Technology)

6. **Study on Precision Recall by Using van der Pol Oscillators with Third-Power and Fifth-Power for Associative Memory**

   Yukinojo Kotani (Tokushima University), Kento Fukuta (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

28PM2-2: Artificial Intelligence and Machine Learning 2

Tuesday 28th February, 4:00pm to 6:00pm HST (Wednesday 1st March, 11:00am to 1:00pm JST) Venue: Room 2 Chair: Yihsin Ho (Takushoku University)

1. **Growth stage estimation of cabbage plants by deep learning**

   Jonggeol Park (Tokyo University of Information Sciences), JiuYun Zhang (Tokyo University of Information Sciences)

2. **Combined Use of Federated Learning and Image Encryption for Privacy-Preserving Image Classification with Vision Transformer**

   Teru Nagamori (Tokyo Metropolitan University), Hitoshi Kiya (Tokyo Metropolitan University)

3. **A Privacy Preserving Method with a Random Orthogonal Matrix for ConvMixer Models**

   Rei Aso (Tokyo Metropolitan University), Tatsuya Chuman (Tokyo Metropolitan University), Hitoshi Kiya (Tokyo Metropolitan University)

4. **Color-NeuraCrypt: Privacy-Preserving Color-Image Classification Using Extended Random Neural Networks**

   Zheng Qi (Tokyo Metropolitan University), AprilPyone MaungMaung (Tokyo Metropolitan University), Hitoshi Kiya (Tokyo Metropolitan University)

5. **Color Image Demosaicking via SwinIR**

   Ai Tsuchihashi (Tamagawa University), Daiki Arai (Tamagawa University), Taishi Iriyama (Saitama University), Masatoshi Sato (Tamagawa University), Hisashi Aomori (Chukyo University), Tsuyoshi Otake (Tamagawa Univerity)

6. **Bit Depth Expansion Network Considering Layer Attention**

   Noriya Kondoh (Tamagawa University), Daiki Arai (Tamagawa University), Taishi Iriyama (Saitama University), Masatoshi Sato (Tamagawa University), Hisashi Aomori (Chukyo University), Tsuyosi Otake (Tamagawa University)

28PM2-3: Signal Processing

Tuesday 28th February, 4:00pm to 6:00pm HST (Wednesday 1st March, 11:00am to 1:00pm JST) Venue: Room 3 Chair: Xiuqin Wei (Chiba Institute of Technology)

1. **Initial research developing equipment for multimodal analysis to evaluate swallowing function**

   Yujiro Sawanobori (University of Yamanashi), Yutaka Suzuki (Toyo University), Masayuki Morisawa (University of Yamanashi)

2. **Classification of Ripple Waves into Experienced Episodes Using CNN**

   Yuta Ishihara (Kagawa University), Ken'ichi Fujimoto (Kagawa University), Hiroshi Murai (Yamaguchi University), Junko Ishikawa (Yamaguchi University), Dai Mitsushima (Yamaguchi University)

3. **Real-time Moving Blind Source Extraction based on Constant Separating Vector and Auxiliary Function Technique**

   Sihan Yuan (Waseda University), Tetsuya Ueda (Waseda University), Shoji Makino (Waseda University)

4. **Generation-based entity typing in knowledge graphs using a pretrained model**

   Kosuke Aigo (Shizuoka University), Takashi Takashi (Shizuoka University), Masafumi Nishida (Shizuoka University), Masafumi Nishimura (Shizuoka University)

5. **Combination of Binary and Ratio Masks with Frequency Domain Subband Division for DNN-based Single-Channel Speech Separation**

Peng Chen (Ritsumeikan University), Yuting Geng (Ritsumeikan University), Kenta Iwai (Ritsumeikan University), Takanobu Nishiura (Ritsumeikan University)

6. **Flower Group Detection for Cherry Tomato Fruiting Treatment Robot Using Depth Camera**

    Jun Shimazaki (Tokushima University), Hiroshi Suzuki (Tokushima University), Takahiro Kitajima (Tokushima University), Akinobu Kuwahara (Tokushima University), Takashi Yasuno (Tokushima University)

28PM3-1: Wireless Communication Systems 2

Tuesday 28th February, 7:00pm to 9:00pm HST (Wednesday 1st March, 2:00pm to 4:00pm JST) Venue: Room 1 Chair: Yue Su (Chiba University)

1. **Programming Learning Support System using Digital Textbook and Exercise Management Systems**

    Hatsune Ochiai (Tamagawa University), Takafumi Tanaka (Tamagawa University)

2. **A Characteristic Analysis of GLDM in Introduction Scheme of Next-Generation DTTB**

    Masashi Sekiguchi (Kanagawa University), Takashi Komatsu (Kanagawa University), Akira Nakamura (Kanagawa University), Makoto Itami (Tokyo University of Science)

3. **A Study on Multi-Stream Transmission Using Generalized Imperfect Block Diagonalization for MU-MIMO Downlink**

    Tadatomo Sato (NIT, Kagoshima College), Teruji Ide (NIT, Kagoshima College)

4. **Adaptive Zero Hybrid Guard Interval for Multiuser Diversity DFTs-OFDMA**

    Kojiro Nakano (Yamaguchi University), Yuta Ida (Yamaguchi University), Takahiro Matumoto (Kagosima University)

5. **Deep Learning Compensation for Multiuser Diversity OFDMA without Guard Interval**

    Shunsuke Tsumori (Yamaguchi University), Yuta Ida (Yamaguchi University), Sho Kuroda (FX Systems Corporation), Takahiro Matsumoto (Kagoshima University)

6. **A Preliminary Evaluation of Millimeter-Wave Communications for Information-Centric Wireless Sensor Networks**

    Shintaro Mori (Fukuoka University)

28PM3-2: Artificial Intelligence and Machine Learning 3

Tuesday 28th February, 7:00pm to 9:00pm HST (Wednesday 1st March, 2:00pm to 4:00pm JST)   Venue: Room 2 Chair: Yasuteru Hosokawa (Shikoku University)

1. **An Application for Searching Sheep based on Machine Learning by Drone**

    Chengyuan Dong (Takushoku University), Yihsin Ho (Takushoku University)

2. **Behavior Recognition and Monitoring System for Office Workers by Deep Learning from Two Surveillance Cameras**

    Atsushi Ogino (Konan University), Masahiro Tanaka (Konan University)

3. **Determining cavities in fresh concrete using sparse estimation and self-organizing maps**

    Kota Takane (University of Yamanashi), Shion Ikeda (University of Yamanashi), Masayuki Morisawa (University of Yamanashi), Yutaka Suzuki (Toyo University)

4. **Reservoir Computing using Cellular Automata for Predicting Time Series**

   Riku Tooyama (Nagaoka University of Technology), Tadashi Tsubone (Nagaoka University of Technology)

5. **Estimation of Temperature and Humidity Spatial Distribution in Horticultural Greenhouses Using Machine Learning**

   Sonoka Yamashita (Tokushima University), Hiroshi Suzuki (Tokushima University), Takahiro Kitajima (Tokushima University), Akinobu Kuwahara (Tokushima University), Takashi Yasuno (Tokushima University)

6. **Prediction Model of Wind Speed and Direction Using CNN and CLSTM with Vector Images Input**

   Hiroto Kanagawa (Tokushima University), Hiroshi Suzuki (Tokushima University), Takahiro Kitajima (Tokushima University), Akinobu Kuwahara (Tokushima University), Takashi Yasuno (Tokushima University)

Wednesday 1st March

1AM1-1: Nonlinear Circuits and Systems 2

Wednesday 1st March, 9:00am to 10:20am Venue: PLUMERIA Chair: Takayuki Kimura (Nippon Institute of Technology)

1. **Synchronization of Bi-Directionally Coupled Chaotic Circuits with Non-Uniform Coupling Strength**

   Yuki Matsubara (Tokushima University), Yuki Ishikawa (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

2. **Chimera States in a Two-Group Networks of Kuramoto model**

   Toru Kumagawa (Tokushima University), Yoko Uwte (Tokushima University), Yoshifumi Nishio (Tokushima University)

3. **An Easy-to-Use Design Approach of Class-E-D WPT System**

   Hiroki Kagawa (Chiba Institute of Technology), Takuya Iwami (Chiba Institute of Technology), Yota Matui (Chiba Institute of Technology), Wei Xiuqin (Chiba Institute of Technology)

4. **Power Losses and efficiency of Class-E-D WPT System at Any Output Voltage**

   Takuya Iwami (Chiba Institute of Technology), Hiroki Kagawa (Chiba Institute of Technology), Xiuqin Wei (Chiba Institute of Technology)

1AM1-2: Artificial Intelligence and Machine Learning 4

Wednesday 1st March, 9:00am to 10:40am   Venue: PAKALANA & ANTHURIUM   Chair: Kenichi Shibata (RIKEN AIP)

1. **Prediction Model of Solar Radiation Based on Weather Forecast and MSM-GPV Using Deep Neural Network**

   Tomohiro Aoki (Tokushima University), Hiroshi Suzuki (Tokushima University), Takahiro Kitajima (Tokushima University), Akinobu Kuwahara (Tokushima University), Takashi Yasuno (Tokushima University)

2. **Image classification with SVM for CMOS sensor generating a vector image**

   Haruto Oki (Ritsumeikan University), Kota Yoshida (Ritsumeikan University), Shunsuke Okura (Ritsumeikan University)

3. **Tackling Over-smoothing on Temporal Convolutional Networks for Operating Work Segmentation**

   Keisuke Nakamura (Shizuoka University), Yoshitaka Yamamoto (Shizuoka University), Masafumi Nishimura (Shizuoka University), Yuki Shiono (Yamaha Motor Co. Ltd.), Reiki Shirasawa (Yamaha Motor Co. Ltd.), Takayuki Nakano (Yamaha Motor Co. Ltd.), Takahiro Aoki (Shizuoka University and Yamaha Motor Co. Ltd.)

4. **High-accuaracy reading technology for QR codes embedded in 3D printed object using an autoencoder**

   Hideyuki Torii (Kanagawa Institute of Technology), Masahiro Suzuki (Seisen University), Kazutake Uehira (Kanagawa Institute of Technology)

5. **Non-profiled DL-SCA using Clustering on Latent Variables of Autoencoder: AE-SCA**

   Kunihiro Kuroda (Ritsumeikan University), Yuta Fukuda (Ritsumeikan University), Kota Yoshida (Ritsumeikan University), Takeshi Fujino (Ritsumeikan University)

1AM2-1: Nonlinear Circuits and Systems 3

Wednesday 1st March, 11:00am to 12:20pm   Venue: PLUMERIA   Chair: Hideyuki Kato (Oita University)

1. **Design of Load-Independent Class-EF Inverter with Nonsinusoidal Output Current**

   Aoi Noda (Chiba Institute of Technology), Yota Matsui (Chiba Institute of Technology), Weisen Luo (Chiba Institute of Technology), Xiuqin Wei (Chiba Institute of Technology)

2. **Wireless Power Transfer System with Series Resonant Inverse Class-E Inverter**

   Yutaro KOMIYAMA (Chiba University), Wenqi ZHU (Chiba University), Xiuqin WEI (Chiba Institute of Technology), Kien NGUYEN (Chiba University), Hiroo SEKIYA (Chiba University)

3. **Synchronization Phenomena in Complex Oscillatory Networks with Switching Coupling**

   Haruka Sakohira (Tokushima University), Kiichi Yamashita (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

4. **Synchronization of Chaos Networks by Changing Circuit Layout Distribution**

   Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

1AM2-2: Sound and Speech Processing

Wednesday 1st March, 11:00am to 1:00pm   Venue: PAKALANA & ANTHURIUM   Chair: Nozomiko Yasui (Saitama University)

1. **Timbre Uniformity Visualization for Percussion Training Using Contrastive Loss**

   Akinori Maeda (Shizuoka University), Masafumi Nishimura (Shizuoka University)

2. **Improved Throat Microphone Speech Recognition Using a Self-supervised Learning Model**

   Kohta Masuda (Shizuoka University), Jun Ogata (National Institute of Advanced Industrial Science and Technology), Masafumi Nishida (Shizuoka University), Masafumi Nishimura (Shizuoka University)

3. **Contrastive Mask Selection and Inpainting Convolution for Few-shot Anomalous Sound Detection**

   Ryosuke Tanaka (Gifu University), Junya Yamashita (Gifu University), Keisuke Ikeda (Gifu University), Satoshi Tamura (Gifu University), Satoru Hayamizu (Gifu University)

4. **ANC System with Multiple Parametric Array Loudspeakers for Stable Noise Reduction Against Obstacles**

   Kazuho Yamaguchi (Nippon Institute of Technology), Masanori Kimoto (Nippon Institute of Technology)

5. **Improvement of Performance for Feedback Active Noise Control in the Frequency Domain**

   Ryota Noguchi (Saitama university), Yosuke Sugiura (Saitama university), Nozomiko Yasui (Saitama university), Tetsuya Shimamura (Saitama university)

6. **Amplitude Spectrogram Prediction from Mel-Frequency Cepstrum Coefficients and Loudness Using Deep Neural Networks**

   Shoya Kawaguchi (National Institute of Technology, Kagawa College), Daichi Kitamura (National Institute of Technology, Kagawa College)

1AM2-3: Wireless Communication Systems 3

Wednesday 1st March, 11:00am to 12:40pm   Venue: ILIMA   Chair: Hiraku Okada (Nagoya University)

1. **Simulation of Underwater Acoustic Communication Using a Directional Transducer Consisting of Multiple Reflectors**

   Ryotaro Chinone (University of Tsukuba), Tadashi Ebihara (University of Tsukuba), Yuji Sato (University of Tsukuba), Naoto Wakatsuki (University of Tsukuba), Yuka Maeda (University of Tsukuba), Koichi Mizutani (University of Tsukuba)

2. **Measurement of Delay and Doppler Spreads in Shallow Water Environment for Mobile Underwater Acoustic Communication**

   Takuya Waki (University of Tsukuba), Tadashi Ebihara (University of Tsukuba), Naoto Wakatsuki (University of Tsukuba), Keiichi Zempo (University of Tsukuba), Koichi Mizutani (University of Tsukuba)

3. **3D indoor positioning system using tensor rank minimization based radio map interpolation**

   Makoto Osawa (Tokyo University of Science), Norisato Suga (Shibaura Institute of Technology), Yoshihiko Tsuchiya (Tokyo University of Science), Masaya Fujisawa (Tokyo University of Science)

4. **A Study on Reinforcement Learning Algorithms to Reduce Power Consumption on BLE Advertisements with Maintaining Reliability**

   Minoru Fujisawa (Tokyo University of Science), Hiroyuki Yasuda (The University of Tokyo), Ryosuke Isogai (SEIKO FUTURE CREATION INC.), Yoshifumi Yoshida (SEIKO FUTURE CREATION INC.), Song-Ju Kim (SOBIN Institute LLC.), Mikio Hasegawa (Tokyo University of Science)

5. **Evaluation of IoT Malware-Disabling Method Using Large-Scale IoT Simulator**

   Yuki Ishida (SecureBrain), Kazuki Takada (SecureBrain), Kazuki Iwamoto (SecureBrain), Takeshi Misu (SecureBrain)

1PM1-1: SS2. Neural Prosthesis and WiBIC 1

Wednesday 1st March, 2:00pm to 3:40pm   Venue: PLUMERIA   Chair: Hiroyuki Torikai (Hosei University)

1. **A Modified Hardware-Efficient Cochlear Model based on Ergodic Cellular Automaton Dynamics**

   Itsuki Kubota (Hosei University), Hiroyuki Torikai (Hosei University)

2. **Learning Attribute Curvilinear Coordinates for Pretrained Deep Generative Model**

   Takehiro Aoshima (Osaka University), Takashi Matsubara (Osaka University)

3. **Temporal Deep Unfolding-based MPC for Controlling Firing Patterns of Neuronal Network**

   Jumpei Aizawa (Osaka University), Masaki Ogura (Osaka University), Masanori Shimono (Kyoto University), Naoki Wakamiya (Osaka University)

4. **A hardware-efficient FPGA neuron model toward virtual clinical trial of brain prosthesis**

   Haruto Suzuki (Hosei University), Hiroyuki Torikai (Hosei University)

5. **Inverse Heat Dissipation Model for Image Segmentation**

   Yu Kashihara (Osaka University), Takashi Matsubara (Osaka University)

1PM1-2: Artificial Intelligence and Machine Learning 5

Wednesday 1st March, 2:00pm to 3:40pm   Venue: PAKALANA & ANTHURIUM   Chair: Tetsuya Shimamura (Saitama University)

1. **Application of multimodal methods to sign language motion classification and its effectiveness evaluation**

   Tsukasa Wakao (Kanagawa Institute of Technology), Yuusuke Kawakita (Kanagawa Institute of Technology), Hiromitsu Nishimura (Kanagawa Institute of Technology), Hiroshi Tanaka (Kanagawa Institute of Technology), Jin Mitsugi (Keio University)

2. **Multi Agent Deep Deterministic Policy Gradient based Fixed Wing Unmanned Aerial Vehicle Collision Avoidance System**

   Yuuki Watanabe (Ritsumeikan University), Tomohiro Fujita (Ritsumeikan University)

3. **Temporal convolutional networks with feature selection for human manufacturing action analysis**

   Yuto Shimizu (Shizuoka University), Yoshitaka Yamamoto (Shizuoka University), Masafumi Nishimura (Shizuoka University), Yuki Shiono (Yamaha Motor Co. Ltd.), Reiki Shirasawa (Yamaha Motor Co. Ltd.), Takayuki Nakano (Yamaha Motor Co. Ltd.), Takahiro Aoki (Shizuoka University and Yamaha Motor Co. Ltd.)

4. **Multi-layer Cortical Learning Algorithm for Trend Changing Time-series Forecast**

   Kazushi Fujino (The University of Electro-Communications), Takeru Aoki (Tokyo University of Science), Keiki Takadama (The University of Electro-Communications), Hiroyuki Sato (The University of Electro-Communications)

5. **Estimating children's classroom participation using machine learning methods**

   Mayuko Maruyama (Tamagawa University), Masahiro Miyata (Tamagawa University), Tetsuji Yamada (Tamagawa University), Takeshi Aihara (Tamagawa University), Takashi Omori (Tamagawa University)

1PM1-3: Communication & Sensor Networks

Wednesday 1st March, 2:00pm to 3:40pm   Venue: ILIMA   Chair: Kosuke Sanada (Mie University)

1. **A Guaranteed QoE Provision using Software Defined Networking and Cryptocurrency**

   Hideya Masaki (Chiba University), Kien Nguyen (Chiba University), Hiroo Sekiya (Chiba University)

2. **Contents Acquisition Method Using Caching List in the Information-Centric Wireless Multi-Hop Networking**

   Shogo Hinata (Kanagawa Institute of Technology), Shigeki Shiokawa (Kanagawa Institute of Technology)

3. **High Speed Optimization of NOMA System Using Coherent Ising Machine in Dynamic Environment**

   Teppei Otsuka (Tokyo University of Science), Aohan Li (The University of Electro-Communications), Hiroki Takesue (NTT Basic Research Laboratories, NTT Corporation),   Kensuke Inaba (NTT Basic Research Laboratories, NTT

Corporation), Kazuyuki Aihara (International Research Center for Neuro intelligence, The University of Tokyo), Mikio Hasegawa (Tokyo University of Science)

4. **Performance Demonstration of Decentralized TDMA Based on Desynchronization of Nonlinear Oscillators with Different Coupling Schemes**

    Takuma Osada (Tokyo University of Science), Hiroyuki Yasuda (The University of Tokyo), Mikio Hasegawa (Tokyo University of Science)

5. **A Novel Energy Efficient Clustering Using a Sleep Awake Algorithm for Energy Harvesting Wireless Sensor Networks**

    Shuntaro Takie (Tokyo University of Science), Ryo Shibata (Tokyo University of Science), Hiroyuki Yashima (Tokyo University of Science)

1PM2-1: SS2. Neural Prosthesis and WiBIC 2

Wednesday 1st March, 4:00pm to 5:20pm   Venue: PLUMERIA   Chair: Hiroyuki Torikai (Hosei University)

1. **Nonlinear Sound Processing Functions of An FPGA Integrated Cochlear Model**

    Yui Kishimoto (Hosei University), Hiroyuki Torikai (Hosei University)

2. **On Loss Function for Deep Learning of Physical Systems**

    Takahito Yoshida (Graduate School of Engineering Science, Osaka University), Takaharu Yaguchi(Graduate School of System Informatics, Kobe University),   Takashi Matsubara (Graduate School of Engineering Science, Osaka University)

3. **Platform Design for Wireless Brain-Inspired Computing**

    Ryuji Nagazawa (Chiba University), Jiaying Lin (Chiba University), Kien Nguyen(Chiba University), Won-Joo Hwang (Busan National University), Hiroyuki Torikai (Hosei University), Mikio Hasegawa (Tokyo University of Science), Hiroo Sekiya (Chiba University)

4. **Analysis of influence of wireless communication on dynamics of neural networks**

    Shota Kawakami (Osaka University), Naoki Wakamiya (Osaka University)

1PM2-2: Image & Video Signal Processing

Wednesday 1st March, 4:00pm to 5:40pm   Venue: PAKALANA & ANTHURIUM   Chair: Masatoshi Sato (Tamagawa University)

1. **APDID: IQA Database Specialized For Printing Images**

    Ryosuke Tonegawa (Saitama University), Yosuke Sugiura (Saitama University), Nozomiko Yasui (Saitama University), Tetsuya Shimamura (Saitama University)

2. **Detection Method of Leaf Cutting Point for Tomato Leafcutter Robot Using Depth Camera**

    Hirokazu Kariyama (Tokushima University), Hiroshi Suzuki (Tokushima University), Takahiro Kitajima (Tokushima University), Akinobu Kuwahara (Tokushima University), Takashi Yasuno (Tokushima University)

3. **Telephone Unit Detection and LED Color Recognition by Image Processing**

    Shuto Suzuki (Gifu University), Junya Sato (Gifu University), Ryoya Suzuki (IWATSU ELECTRIC Co. LTD.), Ichiro Sudo (IWATSU ELECTRIC Co. LTD.), Kyosuke Yamawaki (IWATSU ELECTRIC Co. LTD.)

4. **Misplacement Detection of a Forged Part by Image Processing**

   Mizuki Ito (Gifu University), Junya Sato (Gifu University), Kosei Umemura (ASAHI FORGE CORPORATION), Chikara Ito (ASAHI FORGE CORPORATION), Hidenobu Masuda (ASAHI FORGE CORPORATION)

5. **Visual Archive Search Using Vision-language Object Detection Models**

   Ryuichi Tomiya (Kobe University), Tristan Hascoet (Kobe University), Ryoichi Takashima (Kobe University), Tetsuya Takiguchi (Kobe University)

1PM2-3: SS1. Recent Progress of VLC for 6G

Wednesday 1st March, 4:00pm to 5:40pm   Venue: ILIMA   Chair: Shintaro Arai (Okayama University of Science)

1. **Development of An Experimental System for Image Sensor Communication Using a Rotary LED Transmitter and Low-Speed Camera Receiver**

   Shintaro Arai (Okayama University of Science), Zhengqiang Tang (Nagoya University), Tomohiro Yendo (Nagaoka University of Technology)

2. **Non-uniform Grid-based Optical Fingerprint Positioning on VN-CSK System**

   Daisuke Ogawa (Ibaraki University), Yuta Ochiai (Ibaraki University), Yusuke Kozawa (Ibaraki University), Hiromasa Habuchi (Ibaraki University)

3. **Comparison of Trilateration Method and Optical Figerprinting Method Based on Optical-Wireless VN-CodeSK System**

   Yuta Ochiai (Ibaraki University), Daisuke Ogawa (Ibaraki University), Yusuke Kozawa (Ibaraki University), Hiromasa Habuchi (Ibaraki University)

4. **A Proposal of Hidden Screen-Camera Communication Systems Using Adversarial Examples on CNN Depth Estimation Model**

   Changseok Lee (Nagoya University), Hiraku Okada (Nagoya University) Tadahiro Wada (Shizuoka University), Chedlia Ben Naila (Nagoya University), Masaaki Katayama (Nagoya University)

5. **Enhanced xASK-CodeSK for SLIPT**

   Yu Ichitsuka (Ibaraki University), Yusuke Kozawa (Ibaraki University), Hiromasa Habuchi (Ibaraki University)

Thursday 2nd March

2AM1-1: Nonlinear Applications

Thursday 2nd March, 9:20am to 10:40am   Venue: PLUMERIA   Chair: Yoshitaka Itoh (Hokkaido University of Science)

1. **Attitude Control of Biped Hopping Robot Using an Inertial Rotor**

   Ayumu Kato (Tokushima University), Hiroshi Suzuki (Tokushima University), Takahiro Kitajima (Tokushima University), Akinobu Kuwahara (Tokushima University), Takashi Yasuno (Tokushima University)

2. **Local Search Method for Solving Min-Max multiple Bike Sharing System Routing Problem**

   Takafumi Matsuura (Nippon Institute of Technology)

3. **Similarity-based Multi-factorial Evolutionary Algorithm for Binary Optimization Problems**

   Shio Kawakami (The University of Electro-Communications), Shoichiro Tanaka (The University of Electro-Communications), Keiki Takadama (The University of Electro-Communications), Hiroyuki Sato (The University of Electro-Communications)

4. **Improving Signal Detection Performance of Successive Interference Cancellation with Nonlinear System by Applying Stochastic Resonance**

   Yuta Tomida (Mie University), Hiroyuki Hatano (Mie University), Kosuke Sanada (Mie University), Kazuo Mori (Mie University)

2AM1-2: Artificial Intelligence and Machine Learning for Time Series

Thursday 2nd March, 9:20am to 10:40am   Venue: PAKALANA & ANTHURIUM   Chair: Hiroshi Suzuki (Tokushima University)

1. **Investigation of Sound Data with Three Types of Noise-Mixing Effects by Neural Network Using Autocorrelation Function**

   Takuya Nakamura (Tokushima University), Ryosuke Shimizu (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

2. **Time Series Classification Using Neural Networks with Chaotic Feature Extraction For Multiple Data**

   Ryosuke Shimizu (Tokushima University)), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

3. **Effects of synaptic scaling on spontaneous firing activity in spiking neural networks with modular structure**

   Takumi Shinkawa (Oita University), Hideyuki Kato (Oita University), Yoshitaka Ishikawa (Future University Hakodate), Takuma Sumi (Tohoku University), Hideaki Yamamoto (Tohoku University), Yuichi Katori (Future University Hakodate)

4. **Preliminary Study of Adaptive Synapse Generation in Cortical Learning Algorithm**

   Takeru Aoki (Tokyo University of Science), Keiki Takadama (The University of Electro-Communications), Hiroyuki Sato (The University of Electro-Communications)

2AM2-1: Wireless Communication Systems 4

Thursday 2nd March, 11:00am to 12:40pm   Venue: PLUMERIA   Chair: Kien Nguyen (Chiba University)

1. **Routing and Caching Optimization in Autonomous Mobility-Assited Piggyback Network with mmWave Links**

   Daisuke Yamamoto (Tokyo University of Science), So Hasegawa (National Institute of Information and Communications Technology), Yozo Shoji (National Institute of Information and Communications Technology), Mikio Hasegawa (Tokyo University of Science)

2. **A study of Direct Decoding Adopting LDM in Partial Reception Band in Next-Generation Digital Terrestrial Television Broadcasting**

   Yoko Tanaka (Tokyo University of Science), Akira Nakamura (Kanagawa University), Makoto Itami (Tokyo University of Science)

3. **IRS Reflection Pattern Prediction Considering Receiver's Moving Speed**

    Yoshihiko Tsuchiya (Tokyo University of Science), Norisato Suga (Sugaura Institute of Technology), Kazunori Uruma (Kogakuin University), Masaya Fujisawa (Tokyo University of Science)

4. **Improvement of Automated Modulation Classification Using Independent Component Analysis**

    Naoyuki Funabashi (Saitama University), Yosuke Sugiura (Saitama University), Nozomiko Yasui (Saitama University), Tetsuya Shimamura (Saitama University)

2AM2-2: Applications of Signal Processing

Thursday 2nd March, 11:00am to 12:40pm   Venue: PAKALANA & ANTHURIUM   Chair: Tomohiro Fujita

(Ritsumeikan University)

1. **Forex Trading Strategy That Might Be Executed Due to the Popularity of Gotobi Anomaly**

    Hiroki Bessho (Ibaraki University), Takanari Sugimoto (Gaika ex byGMO Inc.), Tomoya Suzuki (Ibaraki University)

2. **Long-Term Modeling of Financial Machine Learning with Multiple Time Scales**

    Kazuki Amagai (Ibaraki University), Riku Tanaka (Daiwa Asset Management Co.Ltd.), Tomoya Suzuki (Ibaraki University, Daiwa Asset Management Co.Ltd.)

3. **Composition of Thematic Equity Funds by Searching Multi and Unknown Words**

    Zijie Luo (Ibaraki University), Ziyi Dai (Ibaraki University), Tomoya Suzuki (Ibaraki University), Wataru Kuramoto (Daiwa Asset Management Co.Ltd)

4. **A parallel nuclear norm minimization algorithm for matrix rank minimization problems**

    Katsumi Konishi (Hosei University), Tyohei Sasaki (Tokyo University of Technology)

5. **Investigation of Partial Update and Source Localization in Geometrically Constrained Independent Vector Analysis with Auxiliary Function Approach for Moving Source**

    Kana Goto (University of Tsukuba), Tetsuya Ueda (Waseda University), Li Li (NTT Communication Science Laboratories, Nippon Telegraph and Telephone Corporation), Takeshi Yamada (Waseda University), Shoji Makino (University of Tsukuba)

Friday 3rd March

3AM1-1: Bifurcation and Chaos

Friday 3rd March, 11:00am to 12:20pm   Venue: PLUMERIA   Chair: Takashi Matsubara (Osaka University)

1. **Information entropy of transition probability matrix obtained from chaotic time series data**

    Akinori Kato (Tokyo Denki University), Yoshitaka Itoh (Hokkaido University of Science), Masaharu Adachi (Tokyo Denki University)

2. **Verifying Robustness of Parameter Space Estimation for Predicting a Critical Transition**

    Yoshitaka Itoh (Hokkaido University of Science)

3. **Periodic Input Leads an Izhikevich Neuron to Induce both Periodic and Irregular Responses**

   Yota Tsukamoto (Tokyo University of Science), Honami Tsushima (Tokyo University of Science), Tohru Ikeguchi (Tokyo University of Science)

4. **Performance evaluation of chaotic search with stochastic solution transitions for various types of Electric Vehicle Routing Problems with Time Windows**

   Jun Adachi (Nippon Institute of Technology), Takafumi Matsuura (Nippon Institute of Technology), Takayuki Kimura (Nippon Institute of Technology)

3AM1-2: Artificial Intelligence and Machine Learning for Image Processing

Friday 3rd March, 11:00am to 1:00pm   Venue: PAKALANA & ANTHURIUM   Chair: Gengtao Lin (Keio University)

1. **RGB-FIR object detection considering camera-to-camera misalignment**

   Masaya Hojyo (Ritsumeikan university), Masato Okuda (Ritsumeikan university), Kota Yoshida (Ritsumeikan university), Takeshi Fujino (Ritsumeikan university)

2. **Improving Robustness of Adversarial Examples Generated by Fault Injection Attack on MIPI**

   Tatsuya Oyama (Ritsumeikan University), Kota Yoshida (Ritsumeikan University), Shunsuke Okura (Ritsumeikan University), Takeshi Fujino (Ritsumeikan University)

3. **Bit-Depth limited Demosaicking using Predictive Filter Flow**

   Daiki Arai (Tamagawa University), Taishi Iriyama (Saitama University), Masatoshi Sato (Tamagawa University), Hisashi Aomori (Chukyo University), Tsuyoshi Otake (Tamagawa University)

4. **Cross-modal image-to-text retrieval with self-supervised contrastive learning**

   Yusuke Kato (Gifu University), Satoshi Tamura (Gifu University)

5. **Zero-shot evaluation index based on robustness of CNN output**

   Chisato Takahashi (Tokyo City University), Kenya Jin'no (Tokyo City University)

6. **A Study of the Role of Latent Variables Using Three-Dimensional Shapes**

   Saki Okamoto (Tokyo City University), Kenya Jin'no (Tokyo City University)

3PM1-1: IoT Applications

Friday 3rd March, 2:00pm to 3:40pm   Venue: PLUMERIA   Chair: Naoki Wakamiya (Osaka University)

1. **COLLABORATIVE LEARNING SUPPORT ENVIRONMENT UTILIZING GRAPH DOCUMENTS**

   Kenichi Shibata (RIKEN AIP), Shuichi Aono (Tamagawa University)

2. **Composing an IoT platform using AWS - environment measurement of laboratory and student attendance management**

   Yutaro Takada (Kanagawa Institute of Technology), Kazuki Odagiri (Kanagawa Institute of Technology), Ryusei Okamura (Kanagawa Institute of Technology), Kohki Akashi (Kanagawa Institute of Technology), Hiroshi Tanaka (Kanagawa Institute of Technology), Yasuhiro Sudo (Kanagawa Institute of Technology)

3. **Dynamic Visualization of Basic High-Order Functions for Learning Functional Programming**

   Hidekazu Shiozawa (Tamagawa University), Takumi Shimura (Tamagawa University), Koki Asakawa (Tamagawa University), Takafumi Tanaka (Tamagawa University)

4. **Supporting Participants' Synchronized Hand Gestures on a Video Conferencing System**

   Kan Oyama (Tamagawa University), Hidekazu Shiozawa (Tamagawa University)

5. **Feasibility Study of Daily-activity Recognition Using Compressed Sensing**

   Shion OTA (Ritsumeikan University), Tomohiro FUJITA (Ritsumeikan University)

3PM1-2: Biomedical Signal Processing

Friday 3rd March, 2:00pm to 3:40pm   Venue: PAKALANA & ANTHURIUM   Chair: Yukihiro Nomura (Chiba University)

1. **Identification of sexually dimorphic effect of oxytocin intranasal administration on B6J mice electroencephalography**

   Clarissa Genevieve Gregory (Keio university), Yasue Mitsukura (Keio university)

2. **Prefrontal Power Asymmetry Feature Extraction for Depression Severity in a Clinical Study**

   Gengtao Lin (Keio University), Yasue Mitsukura (Keio University)

3. **Separation of Masticatory and Swallowing Sounds Using Wavelet Analysis**

   Yuto Yamamura (Toyo University), Yutaka Suzuki (Toyo University), Nobuyuki Terada (Toyo University), Shuya Shida (Toyo University)

4. **EEG Current Source Localization Using Deep Prior**

   Naoki Hojo (Kobe University), Hajime Yano (Kobe University), Ryoichi Takashima (Kobe University), Tetsuya Takiguchi (Kobe University), Seiji Nakagawa (Chiba University)

5. **Effect of Frequency Bands of Vehicle Sound Components on Attentional Mechanisms Using Event-Related Potentials**

   Yuki Kameyama (Hiroshima City University), Shunsuke Ishimitsu (Hiroshima City University), Keisuke Kotaka (TOYOBO CO. LTD.), Yasuto Fujii (TOYOBO CO. LTD.)

RISP NCSP 2023's FLOOR PLAN
(for on-site presentations)

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GARDENIA

ANTHURIUM

PAKALANA

CARNATION

PLUMERIA

PRE-FUNCTION

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MOANA
SHOPPING
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GARDEN LANAI

HIBISCUS BALLROOM II